GAMBASHIDZE, Abo Ksenofontovich; IVANOV, A.S., inzh., retsenzent; KHARITONOV, N.F., retsenzent; MARSHALKIN, G.A., kand.tekhn. nauk, retsenzent, spetsred.; KRUGLOVA, G.I., red.; PEREDERIY, S.P., tekhn.red.

[Equipment used in wine making] Oborudovanie vinodel'cheskogo proizvodstva. Moskva, Pishchepromizdat, 1960. 250 p. (MIRA 14:4)

(Wine and wine making--Equipment and supplies)

KHARITONOV, N.I.

Relative movement of talus on a slope due to seismic action. Izv. AN Kazakh.SSR.Ser.geol. no.16:47-67 '53. (MLRA 9:5)
(Earth movements)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721820004-7"

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721820004-7"

MOLCHANOV, L.N.; KHARITONOV, N.I.

Effect of heating in overstress testing for limited durability.
Zav. lab. 31 no. 12:1508-1511 '65 (MIRA 19:1)

1. Tul'skiy politekhnicheskiy institut.

KHARITONOV, N. I.

Kharitonov, N. I.

"Variations in the Massiveness of the Skeleton of Romanov Sheep Depending on the Mineral Content of the Food and Conditions of Maintenance." Moscow Veterinary Academy, Min Higher Education USSR. Moscow, 1955 (Dissertation for the degree of Candidate in Agricultural Sciences)

SO: Knizhnaya letopis' No. 27, 2 July 1955

KHARITONOV, N. I.

AUTHORS: Dolgov, B. N., Khudobin, Yu. I., Kharitonov, N. I. 62-1-25/29

TITLE: The Reactions of the Catalytic Dehydrocondensation of the Trialkyl-, Triarylsilanes With Oxy-, Oxo-, and Polyoxyorganic Compounds (Reaktsii kataliticheskoy degidrokondensatsii trialkil-, triarilsilanov s oksi-, okso- i polioksiorganicheskimi soyedineniyami)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958 Nr 1, pp. 113 - 115 (USSR)

In literature there are reports about the possibility of the condensation of the trialkylsilanes with monoatomic alcohols and amines under the action of small quantities of alkaline metals. This is also the case with monocarboxylic acids under the action of a mixture of iodine and aluminum. A general catalytic method for the production of trialkyl-trialylsilyl-derivatives of organic oxy-, oxo-, and polyoxycompounds was worked out by the authors. The metallic halides of Ni, Co, Cr, Ge, Zn, and Sn turned out to be the best catalysts of these reactions. Synthetized were with a yield of up to 95% theoretically 18 trialkylsilyl-derivatives of oxy-, oxo-, and polyoxycompounds, and their physical-chemical properties were determined (see table). Furthermore it was found that a series of trialkyl-

Card 1/2

The Reactions of the Catalytic Dehydrocondensation of the Tri- alkyl-, Triarylsilanes With Oxy-, Oxo-, and Polyoxyorganic Compounds 62-1-25/29

-triarylsilyl-derivatives of the organic oxy- and polyoxy-compounds freeze below -5o° and boil at 5oo° (76o mm) without decomposing. These compounds can be used as heat carriers. There are 1 table, and 4 references, 3 of which are Slavic.

ASSOCIATION: Institute of Silicate Chemistry of AS USSR (Institut khimii silikatov Akademii nauk SSSR)

SUBMITTED: July 3o, 1957

AVAILABLE: Library of Congress

1. Metal halides-Catalytic properties 2. Silanes-Condensation reactions 3. Organic compounds-Condensation reactions 4. Silanes-Catalysis

Card 2/2

MOLCHANOV, L.N.; KHARITONOV, N.I.

Effect of overstress on the intensity of cyclic hardening in roll bending. Zav.lab. 31 no.4:482-485 '65.

(MIRA 18:12)

1. Tul'skiy politekhnicheskiy institut.

KHARITONOV, N.I.; MOLCHANOV, L.N.

Corrosion fatigue strength of 50 steel under simultaneous asymmetrical cyclic action and constant torsion. Zav. lab. 31 no.2:228-230 '65. (MIRA 18:7)

1. Tul'skiy politekhnicheskiy institut.

KHARITONOV, N.I., dotsent, kand. tekhn. nauk

Some problems in the mechanics of a rock massif. Nauch. trudy Tul. gor. inst. no.4:105-115 '61. (MIRA 16:8)

(Rocks--Testing)

ACCESSION NR: AP4020050 S/0032/64/030/003/0354/0355

AUTHOR: Kharitonov, N. I.

TITLE: Estimation of the corrosion-fatigue strength of steel at asymmetric cycling

SOURCE: Zavodskaya laboratoriya, v. 30, no. 3, 1964, 354-355

TOPIC TAGS: corrosion resistance, endurance limit, yield limit, asymmetric cycling, steel 35, pearlite, testing machine NU, tensometer TR 1, bending stress

ABSTRACT: The effect of a constant tensile stress on the corrosion-fatigue strength was investigated while bending the specimen. Tests were conducted up to 10 x 10^6 cycles in distilled water and in a 3% solution of NaCl in a NU type machine at a rotation speed of 2860 rpm. A cross-sectional view of the specimen is shown in Fig. 1 on the Enclosure. The tubular specimen was made of steel 35 (pearlite class). Its interior was polished and filled with beads, and its external surface was ground. The corrosive substance was contained in a plexiglass dish and was splashed on the specimen by rotating vanes. The deformation was measured by a tensometer of the type TR-1, scaled for stress at E = 2.6 x 10^6

Card 1/3

ACCESSION NR: AP4020050

ENCLOSURE: 01

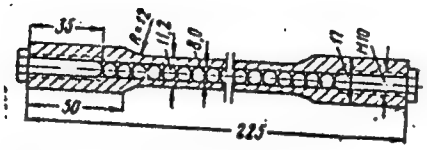

Fig. 1. Sketch of test specimen with beads

Card 3/3

KHARITONOV, N.I., dotsent, kand. tekhn. nauk; TSOY, P.I., dotsent, kand. fiziko-matem. nauk

Testing steel 35 for corrosive wear in agressive media of the Moscow coal basin. Nauch. trudy Tul. gor. inst. no.4:220-222 '61. (MIRA 16:8)

(Moscow Basin--Steel--Corrosion)

AUTHORS: Kharitonov, N. I., Tsoy, P. I.

S/137/62/000/006/137/163
A057/A101

TITLE: The effect of constant tensile stresses on corrosion fatigue in monoaxial uniform stressed state

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 89, abstract 6I565 ("Nauchn. tr. Tul'sk. gorn. in-t", 1961, sb. 3, 117 - 120)

TEXT: The samples were prepared from Ст (St) 35 steel of the perlite class. The tests were carried out on a machine of the НУ (NU) type at pure bending of the sample which rotated with a rate of 2,860 rpm. The samples were during the testing process under conditions of the monoaxial stressed state and non-symmetric cycle. The tests were carried out in NaCl solution at different combinations of variable bending and constant tension. As nominal base of the test was taken 10.10^6 cycles. The value σ_w in a symmetric cycle was always smaller than σ_w in a non-symmetric cycle in tests of samples under normal conditions. The fatigue rupture occurs in the corrosive medium at lower stresses, than in a symmetric cycle. Data obtained earlier by Glikman, and data obtained by the

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The effect of...

S/137/62/000/006/137/163
A057/A101

authors are compared. The size of the amplitude of the cycle at the fatigue limit decreases somewhat with the increasing of the size of the mean stress. The superposition of a constant tensile stress σ_s 20 kg/mm2 on a symmetric cycle under conditions of a uniform stressed state decreases the endurance limit of St 35, which is determined from a symmetric cycle at a non-uniform stressed state, by about 45%; at $\sigma_s = 4$ kg/mm^2 - by about 27%. There are 7 references.

Ye. Layner

[Abstracter's note: Complete translation]

Card 2/2

KHARITONOV, N.I.

Evaluation of the corrosion and fatigue strength of steel in an asymmetric cycle. Zav.lab. 30 no.3:354-355 '64. (MIRA 17:4)

1. Tul'skiy gornyy institut.

ACC NR: AM5027770 Monograph UR/

Belinskaya, Galina Vasil'yevna; Peshkov, Izyaslav Borisovich; Kharitonov, Nikolay Pavlovich

Heat-resistant insulation of magnet wires (Zharostoykaya izolyatsiya obmotochnykh provodov) Moscow, Izd-vo "Nauka", 65. 0097 p. illus., biblio. (At head of title: Akademiya nauk SSSR. Institut khimii silikatov im. I. V. Grebenshchikova) 2,000 copies printed.

TOPIC TAGS; electric distribution equipment, electric insulation, insulated wire, electric wire, fiber glass

PURPOSE AND COVERAGE: The book examines the basic construction methods of heat-resistant magnet wires. Investigation results of current-carrying conductors and various insulation types withstanding high temperatures are presented. The manufacturing of heat-resistant magnet wires are described. The book is intended for a broad circle of specialists working in various fields of modern technology involved in the construction and use of electrotechnical devices designed for work at high temperatures.

TABLE OF CONTENTS:

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ACC NR: AM5027770

SUB CODE: 09/ SUBM DATE: 18May65/ ORIG REF: 046/ OTH REF: 033

Card 2/2

KHARITONOV, N. P.; ANOKHIN, V. A.

Smooth shifting of a hydromechanical transmission. Avt. prom. 29 no.5:10-15 My '63. (MIRA 16:4)

1. Moskovskiy avtomobil'nyi zavod imeni Likhacheva.

(Automobiles—Transmission devices, Automatic)

KHARITONOV, N.P.

Increasing the smoothness of the shifting of a hydromechanical transmission. Avt. prom. 30 no.5:9-11 My '64.

(MIRA 17:9)

1. Moskovskiy avtozavod imeni Likhacheva.

ANICHKOV, M.N., doktor med.nauk; BALYUZEK, F.V., kand.med.nauk; BURMISTROV, M.I., kand.med.nauk; PISAREV, Yu.F., kand.med.nauk; ~~KHARITONOV, N.P., kand.med.nauk~~

Alloplasty of a segment of the aortic arch using the ostium and trunk portion of the left subclavian artery. Vest.khir. no.78 15-18 '61. (MIRA 15:1)

1. Iz 1-y khirurgicheskoy kliniki usovershenstvovaniya vrachey (nach. - prof. P.A. Kupriyanov) Voyenno-meditsinskoy ordena Lenina akademii im. S.M. Kirova.
(SUBCLAVIAN ARTERY--TRANSPLANTATION) (AORTA--SURGERY)

ANICHKOV, M.N. (Leningrad, D-28, Mokhovaya ul., d.28, kv.26);BALYUZEK,F.V.
BURMISTROV, M.I.; PISAREV, Yu.F.; KHARITONOV, N.P.

State of the collaterals in coarctation of the thoracic aorta.
Grud.khir. 4 no.6:30-33 N-D'62. (MIRA 16:10)

1. Iz 1-y khirurgicheskoy kliniki usovershenstvovaniya vrachey (nachal'nik - prof. P.A.Kupriyanov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(AORTA--SURGERY) (CHEST--BLOOD SUPPLY)

KHARITONOV, N.P.

Kharitonov, N.P. --"Study of the Reaction of the Interaction of Trailkylsilanes with Alcohol, Monocarboxylic Acid, and Amines." Cand Chem Sci, Leningrad State U, Leningrad 1953 (REFERATIVNYY ZHURNAL--KHIMIYA) No 1, Jan 54)

Source: SUM 168, 22 July 1954

KHARITONOV, N.P.

USSR/Chemistry

Card 1/1

Authors : Dolgov, B. N.; Kharitonov, N. P.; and Voronkov, M. G.

Title : Reaction of triethylsilane with ammonia and amines.

Periodical : Zhur. Ob. Khim. 24, Ed. 4, 678 - 683, April 1954

Abstract : Authors investigated the reaction of triethylsilane with ammonia and amines catalyzed with amides of alkali metals. It was found that the reaction process depends upon the nature of the amine and catalyst. Revealed are the conditions leading to the synthesis of amino-, alkylamino- and dialkylamino derivatives of triethylsilane with high yield. Authors synthesized 12 such compounds, 8 of which were previously unknown, and determined their physical properties. Nine references; 2 USSR since 1948; 7 USA since 1929. Tables.

Institution : Laboratory of Silico-Organic Chemistry at the A. A. Zhdanov University in Leningrad.

Submitted : October 13, 1953

KHARITONOV, N. P.
USSR/Chemistry

Card 1/1

Authors : Dolgov, B. N; Kharitonov, N. P.; and Voronkov, M. G.

Title : Reaction of trialkylsilanes with monocarboxylic acids. New method of synthesizing trialkylacyloxysilanes and their physical properties.

Periodical : Zhur. Ob. Khim. 24, Ed. 5, 861 - 867, May 1954

Abstract : A new method for the synthesis of trialkylacyloxysilanes through the reaction of trialylsilanes with organic acids in the presence of a catalyst is described. This new method enabled the synthesis of 19 such compounds (with yields of 81 - 87%), 16 of which were previously unknown. The physical properties of these compounds were determined. The reaction of trialkylsilane with carboxylic acid depends very little upon the structure of the alkylsilane or acid. Trialkylacyloxysilanes can also be derived from the reaction of trialkylasilanes with mercuric salts of carboxylic acids. Thirty references. Tables.

Institution: The Leningrad State University, Leningrad, USSR

Submitted : October 13, 1953

4

The reaction of trialkylsilanes with alcohols. Synthesis of trialkylalkoxysilanes and their physical properties. [illegible] N. I. Shergina and M. G. [illegible] J. Gen. Chem. U.S.S.R. 24, 1167-77(1954)(Engl. translation).—See C.A. 49, 12275b. B. M. R.

KHARITONOV, N.P.

USSR/ Chemistry Reaction processes

Card : 1/1 Pub. 151 - 17/35

Authors : Dolgov, B. N., Kharitonov, N. P., and Voronkov, M. G.

Title : Reaction of trialkylsilanes with alcohols. Synthesis of trialkylalkoxysilanes and their physical properties

Periodical : Zhur. ob. khim. 24, Ed. 7, 1178 - 1188, July 1954

Abstract : The reaction of R_3SiH ($R = C_2H_5$, n-C_3H_7, n-C_4H_9 (trialkylsilanes) with primary, secondary and ternary alcohols in the presence of alkali metal alcoholates, was investigated. The effect of the trialkylsilane structure, alcohol and atomic number of the metal on the alcoholate used as catalyst on the rate of reaction, is explained. The trialkylsilane-alcohol reaction was found to be simple and suitable for the synthesis of trialkylalkoxysilanes. Thirty-six references: 9 USSR, 27 USA, English and German. Tables.

Institution : ....

Submitted : ....

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721820004-7"

KHARITONOV, N. P.

N. P. Kharitonov, and B. N. Dolgov, "The New Thermo-humidity-electro- insulation Materials based on Silicon Organic Substances."

Report presented at the Second All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds held in Leningrad from 25-27 Spetember 1958.
Zhurnal prikladnoy khimii, 1959, Nr.1, pp 238-240 (USSR)

DOLGOV, B.N.; KHUDOBIN, Yu.I.; KHARITONOV, N.P.

Reactions of catalytic dehydrocondensation of trialkyl-, triarylsilanes, with oxy, oxo, and polyoxyorganic compounds. Izv. SSSR. Otd. khim. nauk no.1:113-115 Ja '58. (MIRA 11:1)

1. Institut khimii silikatov AN SSSR.
(Dehydration) (Condensation (Chemistry))
(Silane)

SOV/105-58-7-15/32

AUTHORS: 1) Dolgov, B. N., Doctor of Chemical Sciences
Kharitonov, N. P., Candidate of Chemical Sciences
2) Belinskaya, G. V., Candidate of Technical Sciences
Avetikov, V. G., Candidate of Technical Sciences

TITLE: Constant Wire-Wound Resistances PT for Operation in Tropical Climates (Provolochnyye postoyannyye soprotivleniya PT dlya raboty v usloviyakh tropicheskogo klimata)

PERIODICAL: Elektrichestvo, 1958, Nr 7, pp. 64 - 65 (USSR)

ABSTRACT: Wire-wound resistances of the type PT which are designed for the tropics, are described. Their dimensions are calculated in such a manner that, in the case of nominal electrical charges, the surface temperature exceeds that of the environment by more than 200°C. These resistances consist of a ceramic structure with rigid constructions and reeled up wire of highly effective resistance. From outside they are protected by a special coating against the actions produced by the external medium. The high quality of these coatings is due to the combination of silicon-organic polymeric compounds with specially treated mineral fillers. The resistances

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SOV/105-58-7-15/32

Constant Wire-Wound Resistances PT for Operation in Tropical Climates

are characterized by high-moisture-resistance. They are resistant against the action of mould fungi. They were tested by the Geneva Method MEK (Ref 1). They have both high mechanical and electrical resistance and warrant safe operation for more than 5000 hours. The "Uralizolyator" Works at present produce these resistances in accordance with the technical regulations TU - ПОШ.528.061-57. Examination of the resistance against fungi was carried out in the Laboratory of Electrophysics at the VEI (under the supervision of [illegible] A. Yamanov). There are 1 figure, 2 tables, and 1 Soviet reference.

ASSOCIATION: 1) Institut khimii silikatov AN SSSR, Leningrad (1) Leningrad, Institute of the Chemistry of Silicates, AS USSR)
2) Gosudarstvennyy issledovatel'skiy elektrokeramicheskiy institut, Moskva (2) State Research Institute for Electroceramics, Moscow)

SUBMITTED: August 2, 1957

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30V/105-58-7-15/32

Constant Wire-Wound Resistances P F for Operation in Tropical Climates

1. Resistors--Design

Card 1/3

AUTHORS: Dolgov, B. N., Kharitonov, N. P., Glushkova, N. Ye., Khudobin, Yu. I.

SOV/79-28-10-17/60

TITLE: Catalytic Dehydro Condensation of the Trialkyl Silanes With Alcohols in the Presence of Metal Chlorides (Kataliticheskaya degidrokondensatsiya trialkilsilanov so spirtami v prisutstvii khloridov metallov)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2710-2713, (USSR)

ABSTRACT: The authors continued their investigations of the previous paper on the catalytic dehydro condensation of the above-mentioned silanes with oxy, oxo and polyoxy-organic compounds. Earlier they used alkali alcoholates as catalysts for this condensation of R_3SiH with alcohols (yields 80-90 %). In the present paper moreover some small additions of various metal chlorides are used, of which $ZnCl_2$ and $SnCl_2$ proved to be the most active. The reaction velocity of R_3SiH with alcohols depends on the nature and the quantity of metal chlorides. The increase of the amount of chlorides from 0,05 to 1 gr. leads to the increase of the reaction velocity, whereas the further addition has no more influence. The reactions of methanol with

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triethyl silane at a ratio of 2:1 (Table 1) prove this. The increase in length of the alkyl radicals from CH_3 to n.-C_4H_9 in alcohols of normal structure decreases the reaction velocity (Table 2, Experiments 1-3, 5). The difficulties in the spatial arrangement in the case of the presence of radicals of the iso-structure considerably decrease the reaction velocity (Table 2). The structure of the trialkyl silane exerts an important influence on the reaction velocity (Table 3). 13 trialkyl alkoxy silanes, 7 of which are new, were synthesized. The physical properties of the newly synthesized trialkylalkoxy silanes are given in table 4. The method described is of general character for the alkoxylation of the Si-H bond, and makes it possible to obtain the trialkylalkoxy silanes in pure state. No side products are formed. There are 5 tables and 4 references, 2 of which are Soviet.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR
(Institute of the Chemistry of Silicates of the Academy of Sciences, USSR)

AUTHORS: Dolgov, B. N., Kharitonov, N. P. Tsukshverdt, T. V.

SOV/79-28-10-18/60

TITLE: Catalytic Dehydro Condensation of Trialkyl Silanes With Glycols (Kataliticheskaya degidrokondensatsiya trialkilsilanov s glikolyami)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2714-2718 (USSR)

ABSTRACT: The present paper describes the catalytic dehydro condensation of trialkyl silanes with glycols. In this reaction the authors proceeded from the $(C_2H_5)_3SiH$, $(C_3H_7)_3SiH$, $(C_4H_9)_3SiH$ and $C_2H_5(C_4H_9)_2SiH$. Ethylene glycol; 1,2-propanediol; 1,3-, 1,4- and 2,3-butanediol and ethylene diglycol were used as bivalent alcohols. The trialkyl silanes react neither with glycols nor with monovalent alcohols without catalysts. In their presence (traces of alkali glycolates) the reaction takes place according to the following general scheme:

$$2R_3SiH+C_nH_{2n}(OH)_2 \xrightarrow{C_nH_{2n}(OM)_2} C_nH_{2n}(OSiR_3)_2+2H_2 ,$$

where M = Li, Na, K.

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The criterion for the ending of the reaction was the separation of the theoretically calculated amount of hydrogen. The reason for this method being preferred to the synthesis by way of the alkyl chloro-silanes (Refs 2-6) was the simplicity of its performance, the higher yields and the purity of the final products. The reaction took place under normal conditions. The reaction velocities depend on the structure of the components. They decrease with the lengthening of the alkyl radicals in R_3SiH (Table 1). The structure of glycol exerts a considerable influence on the reaction velocity (Tables 1 and 2). The nature of the alkali metal in the catalyst also exerts a considerable influence on the reaction. The reaction velocity increases (Table 2) with an increase of the atomic numbers of the alkali metal (from lithium to potassium). In table 3 the 16 newly-synthesized di-(trialkyl siloxy) alkanes are mentioned. There are 5 tables and 8 references, 2 of which are Soviet.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of the Chemistry of Silicates of the Academy of Sciences, USSR)

SOV/110-58-12-16/22

AUTHORS: Dolgov, B.N., Doctor of Chemical Sciences, ~~Kharitonov, N.P.,~~ Candidate of Chemical Sciences, Belinskaya, G.V., Candidate of Technical Sciences and Avetikov, V.G., Candidate of Technical Sciences

TITLE: Wire-Wound Resistors Type PT, Suitable for Tropical Service (Provolochnyye soprotivleniya PT, prigodnyye dlya raboty v tropicheskikh usloviyakh)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, Nr 12, pp 61-65 (USSR)

ABSTRACT: Hitherto wire-wound resistors for tropical use have not been made in the USSR. The construction of resistors type PT intended for use in d.c. and 50 c/s a.c. circuits is described. An outline drawing of the PT series is given and the dimensions and main properties are tabulated. Two resistance tolerance classes are made, the first of ± 5% and the second of ± 10%. At rated load the temperature rise is not greater than 200°C. The resistors are wound on ceramic formers and have rigid terminals. The formers are made of high-voltage porcelain. The resistance wires are nichrome and constantan welded to the terminals which are of polished stainless steel grade 1-Kh18N9T. In a wire-wound

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SOV/110-58-12-16/22

Wire-Wound Resistors Type PT, Suitable for Tropical Service

resistor the former, the wire, the terminals and the glaze all have different coefficients of expansion which can sometimes lead to cracking. This is particularly likely with the normal vitreous enamel coatings, which in resistors type PT is replaced by specially developed heat-resisting materials based on silicone polymers. By using a special combination of silicone polymers with various oxides and fibrous mineral fillers, it was possible to develop protective coatings, cementing compounds and marking paints capable of operating continuously at temperatures of 300°C and more. The protective coverings are applied with paint sprays. Application of this covering alters the resistance only by about 1% instead of the 12% change that is common with vitreous enamel. The testing procedure for the resistors is then described. The resistance to moisture of resistors types PT, PE and PEV was determined in the usual way; the test results are given in Table 2. It will be seen that the performance of resistors type PT in the tropical tests

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SOV/110-58-12-16/22

Wire-Wound Resistors Type PT, Suitable for Tropical Service

was perfectly satisfactory and the alteration in resistance was 0.2 to 0.5%. The other types of resistor did not behave well. Tests of resistance to mould growth were made under the guidance of Candidate of Technical Science S.A.Yamanov. Resistors type PT were found to withstand the growth of moulds and the insulation resistance of the coating remained unaltered at 10^{12} ohm/cm^2. The resistors were also satisfactory on electrical breakdown, surface heating and life tests. These resistors are now being manufactured commercially. The possibility of replacing vitreous enamel by new types of coating was investigated for resistors type PEV protected by silicone polymer compounds instead of vitreous enamel. The types of resistor tested are listed in Table 3. The alteration of resistance on humidity testing was well within the permitted figures, as will be seen from the results given in Table 4. The breakdown voltage and insulation resistance of the coating were satisfactory. Rapid variations in temperature were adequately withstood. A number of other tests were applied and all were

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SOV/110-58-12-16/22

Wire-Wound Resistors Type PT, Suitable for Tropical Service

successfully withstood. It is concluded that the new coatings are more suitable for resistors type PEV than vitreous enamel. There is 1 figure, 4 tables and 3 Soviet references.

SUBMITTED: 3rd February 1958

Card 4/4

AUTHORS: Dolgov, B. N., Khudobin, Yu. I., Kharitonov, N. P. SOV/20-122-4-19/57

TITLE: A New Synthesis Method of the Tris(Trialkyl(Aryl)Silyl)Borates (Novyy metod sinteza tris(trialkil(aril)silil)boratov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 4, pp 607-608 (USSR)

ABSTRACT: Only imperfect data on the production of the organosilicon esters of the boric acid have hitherto appeared in literature (Refs 1-4). In the present paper the authors carry on their investigations concerning the dehydro-condensation of the trialkyl(aryl)silanes with organic molecules containing oxy-, oxo-, and polyoxy-groups. The authors reported earlier (Refs 5, 6) on an even reaction course of the last mentioned compounds with oxy-, carboxy-, and polyoxy-organic compounds in the presence of catalysts of non-alkaline nature. The trialkyl(aryl)silanes can be dehydrocondensated with the boric acid without formation of by-products in the presence of small additions(0,01 - 1%) of anhydrous halides of cobalt, nickel, palladium, or platinum: the borates mentioned in the title are produced with a yield of 90 - 95%. The reaction is caused by heating a mixture of the initial components at 100 - 130° and is

Card 1/2

A New Synthesis Method of the Tris(Trialkyl(Aryl)Silyl)Borates

SOV/20-122-4-18/57

easily controlled by the velocity and the quantity of the escaping hydrogen. The borates obtained have a high degree of purity. They are colorless liquids with a particular smell, which can be distilled without decomposition. They are hydrolyzed easily by water and diluted alkalis as well as acids. Table 1 gives the physical constants, yields, and analysis results of these substances. There are 1 table and 7 references, 4 of which are Soviet.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of Silicate Chemistry of the Academy of Sciences, USSR)

PRESENTED: May 30, 1958, by A. V. Topchiyev, Academician

SUBMITTED: May 29, 1958

Card 2/2

5.4600

67127
SOV/143-59-11-8/19

AUTHORS: Dolgov, B.N., Professor, Doctor of Technical Sciences; Kharitonov, N.P., Candidate of Technical Sciences; Khudobin, Yu.I., Engineer; Renne, V.T., Prof., Doctor of Technical Sciences; and Soya, G.P., Engineer

TITLE: Research on the Electric Properties of Some Silico-Organic Liquids

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1959, Nr 11, pp 59-66 (USSR)

ABSTRACT: This is a report on the experiments carried out by the authors to ascertain the electric properties of some silicone fluids which are potential impregnating or sealing dielectrics. Silicone fluids are rarely used in the USSR, although liquid dielectrics are required for many types of electric equipment The fluids, examined by the authors, are considerably different in their chemical composition from polymethyl- or polyethyl-siloxanes, especially by the presence of a

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67127

SOV/143-59-11-8/19

Research on the Electric Properties of Some Silico-Organic Liquids

central benzole ring in the molecule. The tested liquids are designated as "Nr 2", "Nr 243" and "Nr 529". They were synthetically produced by the Institute of the Chemistry of Silicates at the AS USSR and tested at the Leningrad Polytechnic Institute imeni M.I. Kalinin. Their physical properties are listed in Table 1. Table 2 shows electric properties of the subject liquids plus "Kaloriya-2" liquid, at room temperature. The evaporability of the examined liquids, plus "Kaloriya-2" and vaseline oil, at 150°C is shown in Table 3. Table 4 shows electric characteristics of different liquids used for the impregnation of experimental capacitors. (Tested were: "Nr 529", "Kaloriya-2", "MN-3" oil, and vaseline oil.) The characteristics of the experimental capacitors impregnated with the same liquids are shown in Table 5. Table 6 shows the changes of the characteristics of experimental capacitors during the process of aging (up to 200 hours). The devices used in the tests

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Research on the Electric Properties of Some Silico-Organic Liquids

were: "MDP" bridge with an "M501" vibrational galvanometer and an "F50-1" amplifier - for measuring the specific inductive capacitance and loss angle at 50-cycle frequency and 1 kv voltage; at 400 to 5,000-cycle frequency, an "MLYe-1" bridge with a "ZG-4" sound generator and an "ELUR-3" indicator were employed; at frequencies up to 0.7 megacycles, the "KV-1" Q-meter was applied. The authors conclude that all three new silico-organic liquid dielectrics deserve to be thoroughly examined. In particular, "Nr 529" liquid must be paid attention to. Its main characteristics are: specific inductive capacitance at 20°C: 3.05; the tangent of the loss angle at 20°C: 0.0002; specific resistance at 150°C: 1.10^{12} ohm.cm; evaporation loss after 64 hours at 150°C: 1.21 %. There are 6 tables, 9 graphs, and 3 references, 2 of which are

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Research on the Electric Properties of Some Silico-Organic Liquids SOV/143-59-11-8/19

English, 1 Soviet.

ASSOCIATION: Institut khimii silikatov AN SSSR (Institute of the Chemistry of Silicates at the AS USSR) (Dolgov, Kharitonov, Khudobin); Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina (Leningrad Polytechnic Institute imeni M.I. Kalinin) (Renne, Soya)

SUBMITTED: July 21, 1959

Card 4/4

5 (3)

AUTHORS: Dolgov, B. N., Khudobin, Yu. I., Kharitonov, N. P.

SOV/62-59-7-13/38

TITLE: Interaction Between Trialkyl-silanes and Phenol in the Presence of Metal Halides (Vzaimodeystviye trialkilsilanov s fenolom v prisutstvii galogenidov metallov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 7, pp 1238 - 1243 (USSR)

ABSTRACT: The present paper deals with the possibility of replacing the hydrogen atom bound to silicon in the trialkyl-silanes by a phenoxy group in the presence of metal halides. $R_3SiH + HOC_6H_5 \rightarrow R_3SiOC_6H_5 + H_2$. Furthermore, the influence of the structure of the trialkyl-silanes on the reaction velocity was investigated. The reaction proceeds already under inconsiderable additions of metal halides and leads to the production of trialkyl-phenoxysilane. This reaction does not take place if the catalyst is missing and in the presence of metallic potassium. The experimental data are given in table 1. The following rules governing the reaction course were obtained from these data: the halides of Cr, Co, Ni, Ge, Zn, Sn, and Hg

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Interaction Between Trialkyl-silanes and Phenol in the Presence of Metal Halides SOV/62-59-7-13/38

turned out to be the best catalysts. The reaction velocity increased with rising halogen ion radius. The quantity of the used catalyst exercised also a considerable influence on the reaction velocity. Data on the reaction course with alkylene of different structure in the presence of nickel chloride resulted (Table 2) that the reaction velocity increases as well with rising boiling point of the trialkyl-silanes. Trialkyl-silanes with different radicals react more quickly than those with uniform radicals, even more slowly those with branched radicals. The trialkyl-silanes which may be obtained by the described method are very pure. 16 trialkyl-silanes were synthesized, 13 of which have hitherto not been known. The syntheses are described in the experimental part. There are 1 table and 8 references, 5 of which are Soviet.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of the Chemistry of Silicates of the Academy of Sciences, USSR)

SUBMITTED: September 12, 1957

Card 2/2

Kharitonov, N.P.

82046
S/062/60/000/02/11/012
B003/B066

5 3700

AUTHORS: Dolgov, B. N., Glushkova, N. Ye., Kharitonov, N. P.

TITLE: Some Properties of p-Trimethyl-silyl-benzaldehyde

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 2, pp. 351 - 353

TEXT: p-trimethyl-silyl-benzaldehyde gives reactions specific for the carbonyl group (silver mirror reaction, reaction with Schiff's reagent) and addition compounds with sodium bisulfite, 2,4-dinitro-phenyl hydrazine, semicarbazide, hydroxylamine, ammonia, and aromatic amines. In their experiments the authors obtained the bisulfite compound, the semicarbazone, and the oxime of p-trimethyl-silyl-benzaldehyde, the tri-(p-trimethyl-silyl)benzaldiamine and the p-trimethyl-silyl-benzal-aniline. Method of preparation and properties of the above compounds are described. The authors believe that the preparation of silicon-containing dyes of the triphenyl-methane series will be possible. There are 6 references: 1 Soviet and 5 American and English.

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25043
S/062/61/000/006/005/010
B118/B220

53700

AUTHORS: Dolgov, B. N., Glushkova, N. Ye., and Kharitonov, N. P.

TITLE: Condensation of p-trimethyl silyl benzaldehyde with aldehydes and ketones

PERIODICAL: Akademiya nauk SSSR, Izvestiya. Otdeleniye khimicheskikh nauk, no. 6, 1961, 1069-1071

TEXT: [illegible] their previous study (Ref. 1: Izv. AN SSSR, Otd. Khim. n., 1960, [illegible]) [illegible] condensed p-trimethyl silyl benzaldehyde with dialkylacetal ketones in the presence of alkali lyes as catalysts. They used also cyclohexanone, acetophenone, cyclohexanone, acetaldehyde, and formaldehyde. In condensation of p-trimethyl silyl benzaldehyde with ketones containing, in the presence of an active methylene group in the [illegible] position, alcohols according to the following equation:

$$p\text{-}(CH_3)_3SiC_6H_4CHO + CH_3COR \xrightarrow{-H_2O} p\text{-}(CH_3)_3SiC_6H_4CH=CHCOR$$
$$(R = C_6H_5, C(CH_3)_3.$$

If two active methylene groups are present in the molecule of the ketone,

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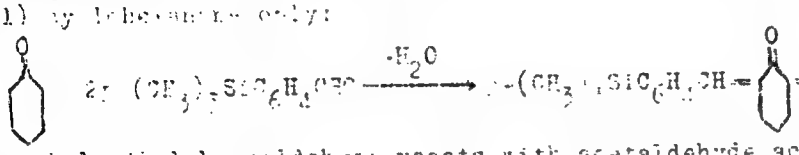
25043
S/062/61/000/006/005/010
B110/B220

Condensation of p-trimethyl silyl ...

Further condensation is possible at the expense of the second methylene group. Using cyclohexanone for the reaction, the authors succeeded in obtaining, under otherwise usual conditions, 1,3-di (p-trimethyl silyl benzal) cyclohexanone only:



p-trimethyl silyl benzaldehyde reacts with acetaldehyde according to the usual equation of aldehyde condensation, and with formaldehyde under the formation of alcohol as follows:

$$p\text{-}(CH_3)_3SiC_6H_4CHO + HCHO \xrightarrow[-HCOOH]{-H_2O} p\text{-}(CH_3)_3SiC_6H_4CH_2OH$$

Notwithstanding the easy oxidizability of p-trimethyl silyl benzaldehyde, the Cannizzaro reaction took place in the presence of dilute aqueous solution of potassium hydroxide, one aldehyde molecule being reduced to alcohol and the other being oxidized to acid:

$$2p\text{-}(CH_3)_3SiC_6H_4CHO \longrightarrow p\text{-}(CH_3)_3SiC_6H_4CH_2OH + p\text{-}(CH_3)_3SiC_6H_4COOH$$

Card 2/3

25043
S/062/61/000/006/005/010
B118/B220

Condensation of p-trimethyl silyl...

Yu. N. Platonov is thanked for his assistance in making the analyses. There are 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The two references to English-language publications read as follows: 1) A. I. Vogell, J. Chem. Soc. 1948 (1838); A. I. Vogell et al., J. Chem. Soc. 1952, 514. 2) R. G. Severson, R. I. Rosscup et al., J. Amer. Chem. Soc. 79, 6540 (1957).

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of Silicate Chemistry of the Academy of Sciences USSR)

SUBMITTED: July 4, 1960

Card 3/3

15.8310

S/081/61/000/022/033/076
B110/B101

AUTHOR: Kharitonov, N. P.

TITLE: New coatings for electrical, heat, and waterproof insulations

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 261, abstract 22I198 (Sb. "Zashchita izdeliy ot vozdeystviya tropich. klimata". L., 1959, 74 - 81)

TEXT: Coatings for heat, waterproof, and electrical insulations, cementing and marking compounds for the protection of wirewound resistors under tropical conditions have been developed. These coatings contain organo-silicon polymers with aluminosilicates and masses developed on their basis. These coatings withstand ~400°C over long and ≥500°C over short periods, sharp temperature drops, tropical humidity, and action of microflora. Examinations of resistance to heat and moisture, and of electrical properties, showed AC-1 (AS-1), AC-3 (AS-3), and AC-4 (AS-4) to be the most suitable first coats. [Abstracter's note: Complete translation.]

VC

Card 1/1

KHARITONOV, Nikolay Pavlovich; KOLESOV, S.V., red.; MYASNIKOVA, T.F., tekhn. red.

[Protection of the human body from electric currents] Zashchita cheloveka ot toka. Moskva, Voen.izd-vo M-va oborony SSSR, 1961. 35 p. (MIRA 14:12)

(Electricity, Injuries from)
(Electricity—Safety measures)

KHARITONOV, Nikolay Pavlovich, kand. khim. nauk; ZHUKOVA, V.I., inzh., red.; FREGER, D.P., red.izd-va; GVIRTS, V.L., tekhn. red.

[Heat, moisture, and electric insulation coatings on a basis of organosilicon polymers and their use]Termovlago-elektroizoliatsionnye pokrytiia na osnove kremneorganicheskikh polimerov i ikh primenenie; stenogramma lektsii. Leningrad, Leningr. dom nauchno-tekhn.propagandy, 1961. 36 p. (MIRA 16:3)

(Protective coatings) (Silicon organic compounds)

S/661/61/000/006/031/081
D205/D302

AUTHORS: Kharitonov, N. P., Dolgov, B. N. and Khudobin, Yu. I.

TITLE: Catalytic dehydrocondensation of trialkyl silanes with ketones

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedineniy; trudy konferentsii. no. 6: Doklady, diskussi, resheniya. II Vses. konfer. po khimii i prakt. prim. kremneorg. soyed., Len., 1958. Leningrad, Izd-vo AN SSSR, 1961, 153-154

TEXT: A discussion in which G. I. Nikishin (IOKh AN SSSR, Moscow), I. A. Shikhiyev (Baku), I. M. Rubintchik (VNIIZhT, Moscow), Yu. K. Yur'yev (MGU) and V. A. Ponomarenko (IOKh AN SSSR, Moscow) took part. N. P. Kharitonov replid. The subject of the discussion was the practical use of the above reaction products. V. A. Ponomarenko said that at the present time the products are of no practical value. Yu. K. Yur'yev objected to the reaction being called dehydrocondensation, this name being reserved for reactions in which a

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C-C bond is formed as the result of hydrogen removal. The authors revealed that they have prepared interaction products of $(C_2H_5)_3SiH$, $(\underline{n}\text{-}C_3H_7)SiH$, $(\underline{n}\text{-}C_4H_9)_3SiH$, $CH_3(C_2H_5)_2SiH$, $C_2H_5(\underline{n}\text{-}C_4H_9)_2SiH$ and other silanes with acetone, methyl ethyl ketone, acetophenone, di-n-propyl ketone, etc. The degree of enolization of the ketone has an influence on the reaction rate. The higher the degree of enolization, the faster the reaction. Reactions with diketones will be performed in continuation of the present work.

ASSOCIATION: Institut khimii silikatov, AN SSSR, Leningrad (Institute of Silicate Chemistry of the AS USSR, Leningrad)

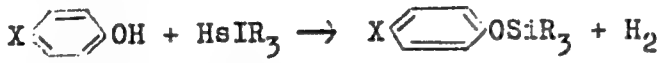
S/661/61/000/006/032/081
D205/D302

AUTHORS: Khudobin, Yu. I., Dolgov, B. N. and Kharitonov, N. P.

TITLE: Dehydrocondensation of trialkyl(aryl)silanes with hydroxyl-containing organic compounds

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedineniy; trudy konferentsii. no. 6: Doklady, diskussii, resheniye. II Vses. konfer. po khimii i prakt. prim. kremneorg. soyed., Len., 1958. Leningrad, Izd-vo AN SSSR, 1961, 155-158

TEXT: Trialkyl(aryl)silanes interact with p-chlorophenol and o-bromophenol in the presence of Zn, Sn, Fe and Al halides giving 95% yields according to



$$X\text{C}_6\text{H}_4\text{OH} + \text{HsIR}_3 \rightarrow X\text{C}_6\text{H}_4\text{OSiR}_3 + \text{H}_2 \qquad (1)$$

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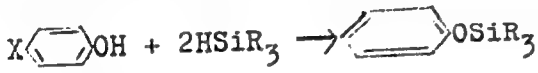
Under analogous conditions trialkyl(aryl)silanes do not react with p-bromophenol. In this case colloidal Co, Ni, Pd and Pt are the best catalysts. These catalysts in the amount of 0.01 - 0.0001% promote the reaction of trialkyl-(aryl)-silanes with halogenophenols according to (1), or to



$$X\text{-}C_6H_4\text{-}OH + 2HSiR_3 \rightarrow C_6H_4(=O)SiR_3 + R_3SiX + H_2 \qquad (3)$$

depending on the molar ratio of reactants. Velocity of the reaction increases with decreasing bond energy and the decrease in the distance between the hydroxy-group and halogen atom. The influence of Zn, Sn, Fe and Al halides and of colloidal Co, Ni, Pd and Pt on the reaction between trialkyl(aryl)silanes and halogenobenzenes was investigated. The metal halides were inactive but the colloidal metals promoted the processes represented by

$$C_6H_5X + HSiR_3 \longrightarrow R_3SiX + C_6H_6 \qquad (4)$$

$$XC_6H_4X + HSiR_3 \longrightarrow R_3SiX + C_6H_5X \quad (5)$$

$$XC_6H_4X + 2HSiR_3 \longrightarrow 2R_3SiX + C_6H_6 \quad (6)$$

The reaction velocity increases with the decrease of the bond (C-X) energy. The reactions with dihalogenobenzenes were analogous and the same may be said of α-bromonaphthalene and 9,10-dibromoanthracene. P. V. Davydov (Moscow), V. A. Ponomarenko, R. Kh. Freydlina (INEOS AN SSSR, Moscow) and M. G. Voronkov (IKhS AN SSSR, Leningrad) took part in the discussion which followed. The opinion of all the participants was that the use of catalysts in the reaction, and in particular of the colloidal metals of the VIII group of the periodic table is of great practical importance. There are 3 tables.

ASSOCIATION: Institut khimii silikatov, AN SSSR, Leningrad (Institute of Silicate Chemistry of the AS USSR, Leningrad)

37774

S/661/61/000/00 /066/081
D243/D302

9.2410 (3705,5003)

AUTHORS: Kharitonov, N. P., Belinskaya, G. V. and Dolgov, B. N.

TITLE: Waterproof thermo-electrical insulation materials on a silico-organic base. PT type tropic wire resistances having protective covering on a base of silico-organic compounds

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedineniy; trudy konferentsii, no. 6: Doklady, diskussii, resheniye. II Vses. konfer. po khimii i prakt. prim. kremneorg. soyed., Len. 1958. Leningrad, Izd-vo AN SSSR, 1961, 288-293

TEXT: The authors carried out a series of tests which reveal new properties of the materials. Metal discs, 50 and 105 mm in diameter were covered with heat-stable masses and the insulation resistance and resistance to frost determined over the range -60 to +600°C. The insulation resistance was measured at 50, 100, 150, 450 and 600°C (3 hours at each temperature). After the tests it remained

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above 10^{10} ohm/cm. After remaining in a moisture chamber for 3000 hours, it was above 10^{13} ohm/cm. Resistance to frost was measured in a cold chamber at -60°C for 15 - 30 days. Adhesion properties of the sealing mass were retained over the whole temperature range. Further experiments were carried out with metal plates covered with a layer of material 0.2 - 0.5 mm thick. No faults appeared after flexure and quenching from 450° to 20°C, and the isolation resistance was afterwards 10^{14} ohm/cm, the samples successfully withstanding 200 V with a.c. The improvement in parameters and reliability of resistances protected by 0.2 - 0.3 mm layers of the studied materials was confirmed by subsequent tests of a similar type. In the discussion which followed further details were elucidated of the properties and polymerization of the substances. A. A. Tambotsev, Institut mekhaniki AN SSSR, Moskva (Institute of Mechanics, AS USSR, Moscow) gave an account of materials developed in his Institute for tensometry, and V. M. Bzhezanskiy, NII Asbestotsement, Leningrad (NII Asbestos Cement, Leningrad) spoke of the properties

S/661/61/000/006/066/081
D243/D302

Water-proof thermo-electrical ...

of some mica derivatives developed for insulation purposes. Other persons named in the discussion are V. I. Pakhomov (NIIPM, Moscow), N. N. Sokolov (VEI, Moscow), M. V. Sobolevskiy (Moscow) and I. A. Zubkov (Moscow).

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR, Leningrad (Institute of Silicate Chemistry, Academy of Sciences USSR, Leningrad); Gosudarstvennyy issledovatel'skiy elektrokeramicheskiy institut, Moskva (State Research Institute for Electroceramics, Moscow)

Card 3/3

S/661/61/000/006/067/081
D243/D302

AUTHORS: Mandel'shtam, A. E., Dolgov, B. N., Kharitonov, N. P., Gorshkov, M. I. and Shurov, N. V.

TITLE: A tubular electrical heater with silico-organic insulation stable against heat, dampness ans electricity, of watertight construction

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedineniy; trudy konferentsii, no. 6: Doklady, diskussii, resheniye. II Vses. konfer. po khimii i prakt. prim. kremneorg. soyed., Len. 1958. Leningrad, Izd-vo AN SSSR, 1961, 294-296

TEXT: In this supplement to their previous paper the authors note some positive features of electroheating elements with silico-organic insulation, for example, their good adhesion and elasticity. The introduction of such an electro-heating spiral element into a metal tube is described and methods of effecting polymerization of the silico-organic coating considered. In the following discussion

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S/661/61/000/006/067/081
D243/D302

A tubular electrical ...

the change in corrosion coefficient of the metal on using AC-1 (AS-1), and the elasticity of an insulation layer 1.5 mm thick, after treatment at 550°C, are considered. V. V. Vrochenskiy (Leningrad) gives an account of a thermoelement of different construction which was efficient and stable.

Card 2/2

NEKHENDZI, Yevgeniy Yulianovich, kand. tekhn. nauk; KHARITONOV, Nikolay Pavlovich, kand. khim. nauk; TYUMENEVA, S.T., inzh., red.; FREGER, D.P., red. izd-va; GVIRTS, V.L., tekhn. red.

[Resistance tensiometers for measuring static deformations at high temperatures; stenographic record of reports presented at the LDNTP seminar on vibration technology] Tensometry soprotivleniia dlia izmereniia staticheskikh deformatsii pri povyshennykh temperaturakh; stenogramma dokladov na seminare v LDNTP po vibratsionnoi tekhnike. Leningrad, 1962. 57 p. (MIRA 15:5)

(Strain gauges)

33133

18.8200 1454 1413

S/115/62/000/001/003/007
E194/E355

AUTHORS: Nekhendzi, Ye.Yu. and Kharitonov, N.P.

TITLE: Strain gauges of Constantan wire for high temperatures

PERIODICAL: Izmeritel'naya tekhnika, no. 1, 1962, 24 - 27

TEXT: During 1956-1958 the Tsentral'nyy kotloturbinnyy institut (Central Boiler Turbine Institute) studied the use of Constantan wires as strain gauges for the temperature range of 20 to 250-300 °C. A systematic study was made of the electrical properties of various brands of Constantan wire suitable for strain gauges as functions of temperature, time and heat-treatment. The adhesive used was heat-resistant cement, grade В-58 (V-58), prepared by the Institut khimi silikatov AN SSSR (Institute of Silicate Chemistry of the AS USSR). This material can be polymerized by moderate heat, so that the properties of the annealed Constantan strip strain-gauges are not affected. Soviet grades of Constantan МНМТS (MNMts) 40-1.5, enamel-insulated grade ПЭК (PEK), hard grades without enamel KT and Kopel MNMts 43-0.5 were

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S/115/62/000/001/003/007
E194/E355

Strain gauges ....

studied, also wires made by the American firm, Driver-Harris (hard Constantan, Advance (enamelled) and Cupron (enamelled)). All the wires had a minimum diameter of 0.03 mm, except the Cupron wire which was 0.0255 mm. The wires corresponded in resistance and mechanical strength to standard ГОСТ (GOST) 5307-50 and in chemical analysis the Soviet wire and American hard Constantan corresponded to standard GOST 492-52, whilst the Advance and Cupron were similar in composition to Kopel'. Three series of tests were made. In the first series the wires were first annealed for one hour, the annealing at a temperature of 200 - 420 °C being carried out in neutral silicone fluid and in air and at temperatures of 450 - 700 °C in a vacuum and in argon. The specimens were tested as strain gauges wound on porcelain tubes. In the second series of tests the wires in the condition of delivery were fixed to specimens of austenitic and pearlitic steels. The strain gauges were annealed for one hour with successive increase of temperature from 300 to 480-500 °C. The results were similar to those of the first series. In the third series of tests a study was made of the

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S/115/62/000/001/003/007
E194/E355

Strain gauges ....

duration of annealing; the gauges were annealed isothermally at temperatures of 370, 390, 420 and 450 °C. The annealing was carried out in stages of 1 - 4 hours for a total time of 12 - 19 hours. The following properties were determined from the tests: the mean value of the temperature coefficient of resistance α in the ranges 20 - 50, 20 - 200 and 20 - 300 °C; the relative change of electrical resistance during isothermal annealing at a given temperature above 300 °C; the relative change in electrical resistance at 20 °C after heat treatment. It was found that the various properties measured are mostly interrelated and the curves are of similar form for all the Constantan wires tested. For wires with an initially negative value of α, in which the curves of α as functions of annealing temperature twice cross the zero line, it is recommended to use heat-compensating annealing with two series of conditions; in a region of holding at a temperature below 400 °C and in the region of recrystallization at a temperature of about 450 °C. Constantan wires can be annealed at temperatures below 400 °C, for times of the order of 1 hour in air, and this can be used to produce thermally-compensated strain

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S/115/62/000/001/003/007
E194/E355

Strain gauges ....

gauges for the temperature range 20 - 270 °C. The tests showed that only wires with a negative value of α in the condition of delivery can be thermally compensated by annealing. The manufacturers should be recommended to make hard Constantan wires with a stable value of α in the temperature range 20 - 200 °C of -10 to -20 x 10^{-6} (for enamelled wires) and about -50 x 10^{-6} (for hard wires) in the unannealed condition. Three temperature ranges of service of thermally-compensated Constantan strain gauges are distinguished: 1) from 20 to 220-270 °C. In this temperature range the strain gauges are thermally compensated and the readings do not depend on temperature; there is no need to measure the temperature of the part being investigated; 2) from 220-270 to 300 °C. In this range the temperature of the part must be measured and corrections made from an experimental curve of change of resistance with temperature; instability of the characteristics can usually be neglected in this temperature range;

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Strain gauges S/115/62/000/001/003/007
E194/E355

3) above 300 °C to 400-500 °C. In this temperature range either a compensating circuit must be used or the influence of temperature and time must be allowed for by making a thermal calibration of a number of compensating strain gauges, using temperature conditions similar to those of the actual tests. Differences of temperature and differences of characteristics between the actual compensating thermocouples have their effects. The use of compensating circuits without preliminary selection of the strain gauges can lead to appreciable errors. In individual favourable cases, it was found possible to make reliable strain measurements up to 500 °C.
There are 4 figures and 3 Soviet-bloc references.

X

Card 5/5

35027

S/143/62/000/006/003/008
D238/D308

9.2110

AUTHORS: Dolgov, B. N. (deceased), Doctor of Chemical Sciences, Khudobin, Yu. I., Professor, Engineer, Kharitonov, N. P., Candidate of Chemical Sciences, Renne, V. T., Doctor of Technical Sciences, Bondarenko, P. N. and Soya, G. P., Engineers

TITLE: The influence of composition and structure of the molecules of some liquid silicones on their electrical properties

PERIODICAL: Izvestiya vysshikh uchebnykh zavendeniy. Energetika, no. 6, 1962, 31-36

TEXT: A study of bi- and tri-(trialkylciloxy)benzoles of different composition and structure indicates that molecular structure has a marked influence on the specific inductive capacitance, the highest value being obtained from the meta-, a medium value for the para- and the smalles for the ortho condition. For a given dipolar moment it can be expected that a higher molecular weight would

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result in a lower specific inductive capacitance and this was observed, but above molecular weight 450, the reduction in specific inductive capacitance ceases and even rises slightly, due to the rise in the dipole moment of the molecules. Increase of molecular weight is accompanied by a sharp drop in the loss angle and an increase in the resistivity. Improved electrical performance is obtained by employing liquid with a high molecular weight and with the meta-condition of the siloxy group. However, the high molecular weight leads to a higher viscosity, which can act adversely with regard to frost resistance when used in condensers. The data, however, indicate the possibility of obtaining a liquid dielectric having good dielectric properties with a freezing temperature not higher than -60°C, having a satisfactory viscosity and with a high boiling point, exceeding 300°C at normal pressure and 200°C at a higher pressure corresponding to wireless condenser impregnation. There are 3 tables and 5 figures.

ASSOCIATION: Institut khimii silikatov AN SSSR (Institute of Silicate Chemistry, AS USSR) (B. N. Dolgov, Yu. I. Khudo-

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DOLGOV, B.N., doktor khim.nauk, prof. [deceased]; KHUDOBIN, Yu.I., inzh.; KHARITONOV, N.P., kand.khim.nauk; RENNE, V.T., doktor tekhn.nauk, prof.; BONDARENKO, P.N., inzh.; SOYA, G.P., inzh.

Effect of the composition and structure of the molecules of certain organosilicon liquids on their electrical properties. Izv. vys. ucheb. zav.; energ. 5 no.6:31-36 Je '62. (MIRA 15:6)

1. Institut khimii silikatov AN SSSR (for Dolgov, Khudobin, Kharitonov).
2. Leningradskiy politekhnicheskiy institut imeni M.I.Kalinina (for Renne, Bondarenko. Soya).
(Silicon organic compounds--Electric properties)

NEFEDOV, V.D.; KHARITONOV, N.P.; LI DE-FU [Li Tieh-fu]; GUSEV, Yu.K.; SKOROBOGATOV, G.A.; SMIRNOV-AVERIN, A.P.; SEVAST'YANOV, Yu.G.; KHUDOBIN, Yu.I.

Tritiation of organosilicon compounds by the method of rebounding tritium atoms. Zhur.ob.khim. 32 no.2:614-618 F '62. (MIRA 15:2)

1. Institut khimii silikatov AN SSSR i Leningradskiy gosudarstvennyy universitet.
(Silicon organic compounds)
(Tritium)

KHARITONOV, N.P.; KONSTANTINOVA, G.T.; KHUDOBIN, Yu.I.; KOMAROV, V.A.

Catalytic reaction of trialkyl (aryl) silanes with allyl alcohol.
Izv. AN SSSR Ser.khim. no.10:1749-1756 O '63. (MIRA 17:3)

1. Institut khimii silikatov im. I.V.Grebenshchikova AN SSSR.

LYUTYY, V.P.; KHARITONOV, N.P.

Copolymerization of unsaturated organosilicon polyethers with vinyl monomers. Izv. AN SSSR. Ser. khim. no.11:2052-2054 N '63.

Synthesis and some properties of organosilicon polyethers with a siloxane bond in the main chain. Izv. AN SSSR. Ser. khim. no.11:2055-2056 N '63. (MIRA 17:1)

1. Institut khimii silikatov imeni I.V. Grebenshchikova, AN SSSR.

DOLGOV, B.N.; VINTER, G.; KOMAROV, V.A.; KHARITONOV, N.P.; KHUDOBIN, Yu.I.

Interaction between pentaerythritol and trialkyl silanes in the presence of some metal halides. Izv. AN SSSR. Ser. khim. no.12:2146-2152 D '63. (MIRA 17:1)

1. Institut khimii silikatov im. I.V. Grebenshchikova AN SSSR i Leningradskiy gosudarstvennyy universitet.

GLUSHKOVA, N.Ye.; KHARITONOV, N.P.

Interaction between p-trimethylsilylbenzaldehyde and organomagnesium compounds. Izv.AN SSSR. Ser.khim. no.1:78-83 Ja '64. (MIRA 17:4)

1. Institut khimii silikatov im. I.V.Grebenshchikova AN SSSR.

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[illegible] hydrogen-atom mobility in allanol groups is con-

[illegible] 1 table.

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GLUSHKOVA, N.Ye.;KHARITONOV, N.P.

Reaction of p-trimethylsilylbenzaldehyde with acids and their derivatives. Izv. AN SSSR Ser. khim. no.11:2074-2076 N '64 (MIRA 18:1)

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KOMAROV, V.A.; PLATONOVA, V.I.; RODIMENKOVA, N.A.; KHARITONOV, N.P.; KHUDOBIN, Yu.I.

Effect of alcohol structure and solvent composition on the kinetics of the alkaline solvolysis of trialkylsilanes. Zhur. fiz. khim. 38 no.9:2139-2144 S '64. (MIRA 17:12)

1. Institut khimii silikatov imeni Grebenshchikova AN SSSR, Leningrad.

OTHER: 006

BELTNSKAYA, Galina Vasil'yevna; PESHKOV, Izyaslav Borisovich; KHARITONOV, Nikolay Pavlovich; REENE, V.T., doktor tekhn. nauk prof., otv. red.

[Heat insulation of winding wires] Zharostoikaia izoliatsiia obmotochnykh provodov. Moskva, Nauka 1965. 97 p. (MIRA 18:8)

ANDROSOV, V.F.; GERASIMOVA, O.N.; LYUTYY, V.P.; KHARITONOV, N.P.

Use of organosilicon compounds in the chemical treatment of woolen and cotton engineering cloth. Izv. vys. ucheb. zav.; tekh. teks. prom. no.6:86-91 '65. (MIRA 19:1)

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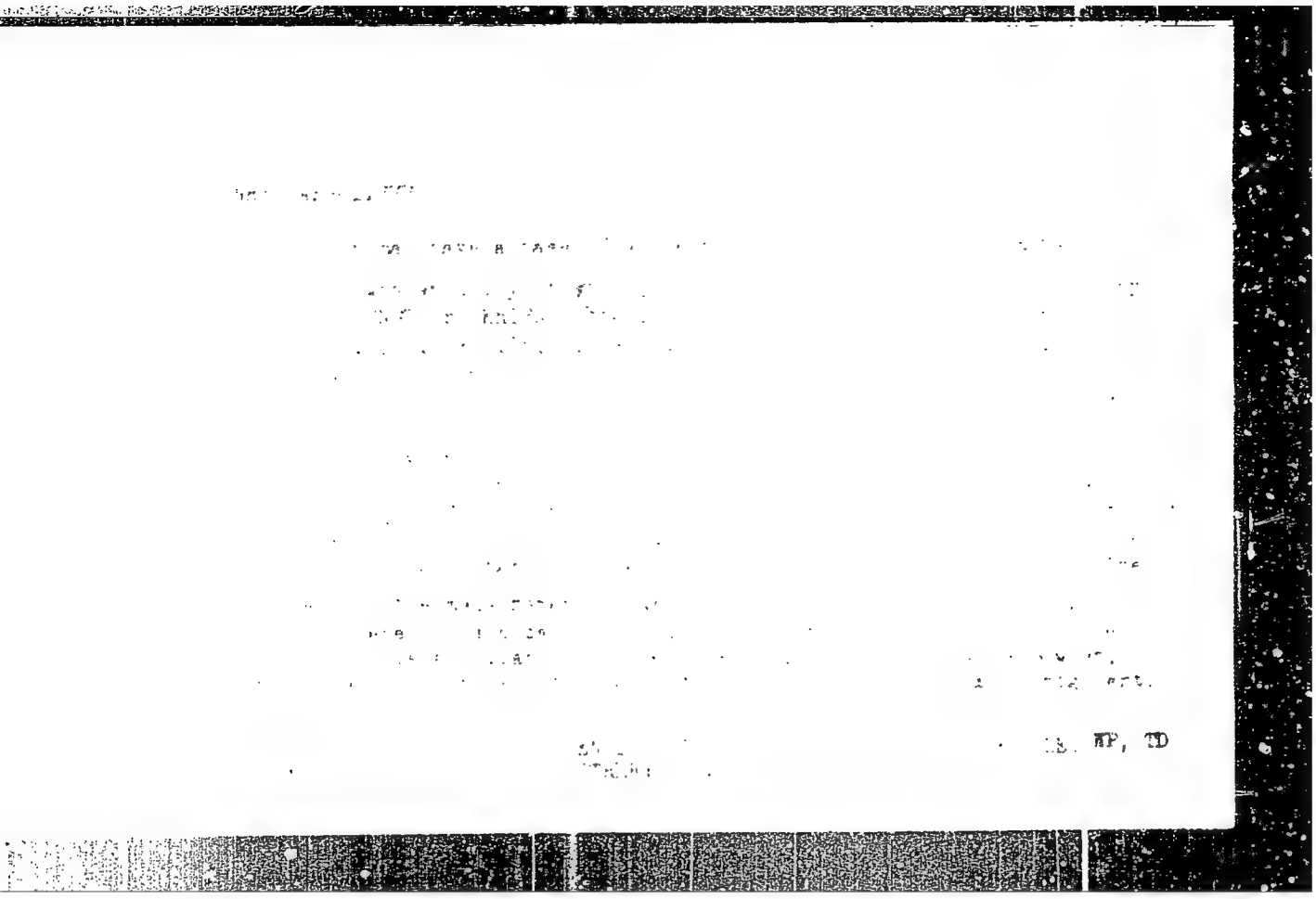

NECHAYEV, B.P.; NEFEDOV, V.D.; KHARITONOV, N.P.; SKOROBOGATOV, G.A.

Chemical effects of N^{14} (n, p) C^{14} reaction in triethylsilylmethylamine. Izv. AN SSSR. Ser. khim. no.7:1266-1267 '65. (MIRA 18:7)

1. Institut khimii silikatov AN SSSR i Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.

SUBBOTIN, V.I., doktor tekhn. nauk; KRIVTSOV, V.A., inzh.; POKROVSKIY, Yu.N., inzh.; IBRAGIMOV, M.Kh., kand. tekhn. nauk; KHARITONOV, N.P., kand. tekhn. nauk

Small thermocouples for measuring temperature in the reactor of the first atomic electric power plant. Teploenergetika 12 no.5:91-94 My '65. (MIRA 18:5)

based on an unsaturated acid such as fumaric and maleic. Ap-

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SUBBOTIN, G.A.; MARKOVSKIY, N.F.; [illegible]

Interaction of silicates with some inorganic and chlorine-containing organosilicon compounds. [illegible] Nauch. zap. [illegible] no.9:[illegible] 1956. (MIRA [illegible])

1. Leningrad Institute of Silicate Chem. [illegible] AN SSSR.

(A) L 11593-66 EWT(m)/EWP(j)/T/EWA(c)/ETC(m) RPL WW/RM

ACC NR: AP6000355 SOURCE CODE: UR/0286/65/000/021/0048/0048

AUTHORS: Ivanov, V. S.; Smirnova, V. K.; Boryaz, V. N.; Migunova, I. I.; Abramova, A. M.; Sidorova, T. I.; Kharitonov, N. P.; Breger, A. Kh.; Gol'din, V.A.

ORG: none

TITLE: Method for obtaining graft copolymers. Class 39, No. 176069

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 48

TOPIC TAGS: polymer, copolymerization, graft copolymer, radiation polymerization, imide, maleic acid

ABSTRACT: This Author Certificate presents a method for obtaining graft copolymers on the basis of poly-organosiloxanes by the interaction of ionizing radiation with a polyorganosiloxane powder in the presence of modifying additives. To improve the physicochemical properties of the graft copolymers and their thermal stability and solvent stability, imides, e.g., N-substituted imides of maleic acid, are used as modifying additives. The radiation dosage is 0.3--8 Mrad and the intensity of radiation is 0.05--0.7 Mrad per hour.

SUB CODE: 11/ SUBM DATE: 20Jul64

Card 1/1 HW UDC: 678.84:537.531.547.462.3

L 28410-66 EWT(m)/EWP(j)/T/ETC(m)-6 IJP(c) WW/GD/RM

ACC NR: AT5027949 SOURCE CODE: UR/0000/65/000/000/0138/0146

68
64
B+1

AUTHOR: Kharitonov, N. P.

ORG: none

TITLE: Organosilicate materials and their use

SOURCE: Seminar po zharostoykim pokrytiyam. Leningrad, 1964. Zharostoykiye pokrytiya (Heat-resistant coatings); trudy seminara. Leningrad, Izd-vo Nauka, 1965, 138-146

TOPIC TAGS: silicon compound, organic silicate, polysiloxane, heat resistance, corrosion resistance

ABSTRACT: The results are given on the research and the progress in the development of the organosilicate materials in the USSR. [Abstracter's note: no definite composition of any material is given.] The polyorganosiloxanes are widely used in the USSR, but the heat resistance of films made of original and modified compounds is limited to 200-220C. The problem of increasing the heat resistance of polyorganosiloxanes and improving their properties (electrical

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ACC NR: AT5027949

insulation capacity, hydrophobic nature, anticorrosion, etc.) was studied at the Institute of Silicate Chemistry im. I. V. Grebenshchikov, AN SSSR (Institut khimii silikatov AN SSSR). This work resulted in the development of coatings consisting of a mixture of the toluene solutions of polymers, activated silicates, and oxides used in definite calculated amounts. After mechanical and chemical treatment and hardening at 50-300C they acquired high thermal resistance ($\leq$ 1000C with prolonged use and 2500 - 3000C with short use) and high insulating properties ($\leq$ from 10^{12}-10^{15} ohm·cm at 20C to 10^{7}-10^{8} ohm·cm at 700C; breakdown voltage 10-70 kv/mm). An organosilicate pressed material was developed in the Laboratory of Silico-Organic Materials (Laboratoriya kremneorganicheskikh materialov). The compressive strength of the samples pretreated for 3 minutes at 275C was 800 kg/cm^2 with no shrinkage. An increase in pre-treatment temperature to 500C and 900C (5 hours exposure) increased the compressive strength to 900 and 1300 kg/cm^2 respectively with 10% shrinkage. The combination of high heat resistance along with other favorable mechanical and electric properties have made these materials applicable in the fields of electrotechnology, radiotechnology, high-temperature tensometry, and in gas turbine technology. Orig. art. has: 3 fig.

SUB CODE: 07,20/ SUBM DATE: 20Jul65/ ORIG REF: 006/ OTH REF: 001

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